

USSR

UDC 621.372.85

GOLOVANOV, V. A., KRASNOV, YE. S., MERKIN, E. I., OSNOVINA, G. G., POLYAK, N. M., PROKOPENKO, V. G., and ERLIKH, E. I.

"Adhesives for the Ferrites of Super-High Frequency Instruments"

Elektron. tekhnika. Nauch.-tekhn. sb. Ferrit. tekhn. (Electronics Technology. Scientific-Technical Collection of Articles. Ferrite Technology), 1971, vyp. 4 (31), pp 111-114 (from RZh-Radiotekhnika, No 11, Nov 72, Abstract No 11 B154)

Translation: The authors study problems associated with the selection of an adhesive for mounting ferrite inserts in high power level, super-high frequency instruments. Test results are also presented for various working conditions. Original article: one table and three bibliographic entries. Resume.

USSR

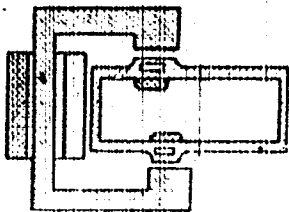
UDC: 621.372.852.22

KRASNOV, Ye. S., GABER, B. N.

"A Nonmutual Phase Shifter"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obratny, Tovarnyye Znaki, No 31, Nov 71, Author's Certificate No 318104, Division H, filed 21 Aug 69, published 19 Oct 71, p 199

Translation: This Author's Certificate introduces a nonmutual phase shifter which contains a section of rectangular waveguide, two transversely magnetized ferrite inserts located on the wide walls of the waveguide, and a magnetic system. As a distinguishing feature of the patent, the working frequency range is extended and the electrical strength is increased by using ferrite inserts of different thicknesses located at different distances from the narrow walls of the waveguide.



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Devices

USSR

UDC 621.3.049.7

GOLOVANOV, V. A., YEREMICHEVA, K. A., KRASNOV, Ye. S., MERKIN,
E. I., OSNOVINA, G. C., POLYAK, N. M., and ERLIKH, I. M.

"Adhesive with Epoxy Base"

Moscow, Otkrytiya, izobreteniya, promyshlennyye obrpatsy, tovarnyye
znaki, No. 33, 1971, p 200

Abstract: This adhesive is designed to improve the operation of
ferrite UHF devices in the face of low and high powered signals
as well as temperature variations. A recipe for its manufacture
is given.

USSR

UDC: 621.372.837(068.8)

KRASNOV, Ye. S., RYCHIN, V. M., YESKIN, A. V.

"A Commutating Device"

USSR Author's Certificate No 270022, filed 9 Jul 68, published 4 Aug 70
(from RZh-Radiotekhnika, No 1, Jan 71, Abstract No 1B2111 P)

Translation: The proposed device contains a waveguide vye in the H plane with its arms cut in half by a metal plate. The device also contains ferrite nonmutual 180° phase shifters. To increase the permissible power level and to reduce overall dimensions and weight, the phase shifters are installed in each of the two arms on different sides of the dividing plate.

1/1

USSR

UDC: 541.122.3-24

SMIRNOV, M. V., HUDZAKOV, V. YA., POSOKHIN, YU. V., and KUMAROV, SV. N.

"Electrochemical Behavior of Thorium in Fused Sodium Chloride and Equimolar Mixture of Chlorides of Potassium and Sodium"

Moscow, Atomnaya Energiya, Vol 28, No 5, May 70, p 419

Abstract: The equilibrium potentials of thorium are measured for various concentrations and temperatures in fused NaCl and KCl-NaCl (50 mol.% NaCl). Empirical isotherm equations are produced, showing that a thorium electrode is reversible to mixtures of its ions Th^{2+} and Th^{4+} . Expressions are found for the temperature dependences of the apparent standard potentials of Th/Th (II) and Th/Th (IV) electrodes. Expressions are presented for the dependences of the equilibrium potential of thorium on its summary concentration.

1/1

USSR

UDC:536.468+662.311.1

FRASNOV, Yu. K., MARGULIS, V. M., MARGOLIN, A. D., POKHIL, P. F., Moscow

"Rate of Penetration of Combustion Into the Pores of a Charge of Explosives"

Novosibirsk, Fizika Goreniya i Vzryva, Vol. 6, No. 3, Sep 70, pp. 290-295

Abstract: Under certain conditions, porous explosives burn at very high speeds, resulting from the fact that the hot combustion products preceding the normal combustion front penetrate into the pores of the charge and heat them. The critical conditions of penetration of burning into pores have been studied earlier. This work studies the question of the rate of penetration of combustion into the pores of an explosive charge. The experimental study was performed by placing cylindrical specimens of ballistic powder 40 mm in length with channels 1, 1.5, 2.5 and 4 mm in diameter and wall thicknesses of 0.5-1.5 mm in a constant pressure bomb. As the powder burned, the level of fluid filling the pore dropped as the fluid was forced out of the pore through a thin connecting tube to the space outside the bomb. The experiments revealed that the rate of heating of the wall of the powder channel was not equal to the rate of penetration of combustion

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USSR

UDC:536.468+662.311.1

KRASNOV, Yu. K., MARGULIS, V. M., MARGOLIN, A. D., POKHIL, P. F., Novosibirsk, Fizika Goreniya i Vzryva, Vol. 6, No. 3, Sep 70, pp. 290-295

products into the channel. The heating process lagged behind penetration of the combustion products. Expressions produced to describe the rates of movement indicate that the relationship between the rates of gas movement and ignition front is independent of the rate of penetration of combustion products into the channel. In the case of ignition of a smooth wall, the rate of propagation of the ignition front is independent of channel diameter.

USSR

UDC 621.357.13:669.298

SMIRNOV, M. V., KUDYAKOV, V. YA., POSOKHIN, YU. V., and KRASNOY, YU. N.

"The Equilibrium of Metallic Thorium with Melts of Alkali Metal Chlorides Containing Its Ion"

Tr. In-ta elektrokhimii. Ural'sk. nauch. tsentr AN SSR (Works of the Institute of Electrochemistry. Ural Scientific Center, Academy of Sciences USSR), Vyp 18, 1972, pp 2732 (from Referativnyy Zhurnal -- Khimiya, No 8(II), 1973, Abstract No 8L343 A. D. Davydov)

Translation: During the measurement of the equilibrium electrode potentials of thorium in the melts of alkali metal chlorides, it was determined that metallic thorium was reduced from Th^{4+} to Th^{2+} . The equilibrium constants K were determined for the reaction $Th^{4+}_{melt} + Th_{solid} \rightleftharpoons 2Th^{2+}_{melt}$ in all

the studied systems. Expressions were determined for the temperature dependence for the apparent standard electrode potentials (UP) of the Th^{4+}/Th and Th^{2+}/Th by the usual method. The relationship of the UP of Th^{2+}/Th and Th^{4+}/Th , K , other electrochemical characteristics to the nature of the salt solution was determined. The empirical equation relating these parameters to the radius of the cation of the salt was also determined.

1/1

1/2 026 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--LOW TEMPERATURE PHOTOLUMINESCENCE OF ALPHA SIC.6H, SINGLE CRYSTALS
-U-
AUTHOR--(05)-LISITSA, M.P., KRASNOV, YU.S., ROMANENKO, V.F., REIFMAN, M.B.,
SERGEYEV, O.T.
COUNTRY OF INFO--USSR
SOURCE--OPT. SPEKTROSK. 1970, 28(3), 492-7
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--PHOTOLUMINESCENCE, LUMINESCENCE, SILICON, SINGLE CRYSTAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAME--1998/0921 STEP NO--UR/0051/70/028/003/0491/0497
CIRC ACCESSION NO--AP0121523
UNCLASSIFIED

2/2 026

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121523

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE LOW TEMP. (20DEGREESK)
PHOTOLUMINESCENCE OF THE ALPHA SIC (6H) SINGLE CRYSTALS ALLOYED WITH N
AND AL IS CHARACTERIZED BY THE PRESENCE OF TWO SERIES OF EMISSION BANDS
CORRESPONDING TO THE RECOMBINATION IN THE DONOR ACCEPTOR PAIR. THE
NEUTRAL N ATOM DOES NOT ACT AS THE CENTER OF THE RADIATIVE RECOMBINATION
IN SUCH CRYSTALS.

UNCLASSIFIED

1/2 029 UNCLASSIFIED PROCESSING DATE---20NOV70
TITLE---POLYTYPISM AND LOW TEMPERATURE PHOTOLUMINESCENCE OF SILICON CARBIDE
SINGLE CRYSTALS -U-
AUTHOR-(04)-LISITSA, M.P., KRASNOV, YU.S., SERGEYEV, O.T., TORCHUN, N.M.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TVERD. TELA 1970, 12(4), 1290-2
DATE PUBLISHED-----70
SUBJECT AREAS--PHYSICS
TOPIC TAGS--LOW TEMPERATURE EFFECT, PHOTOLUMINESCENCE, SILICON CARBIDE,
SINGLE CRYSTAL
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--2000/1259 STEP NO--UR/0181/70/012/004/1290/1292
CIRC ACCESSION NO--AP0124910
UNCLASSIFIED

2/2 029

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0124910

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. SPECTRA OF LOW TEMP.

PHOTOLUMINESCENCE WERE INVESTIGATED OF N TYPE CRYSTALS GROWN BY
SUBLIMATION AND DOPED WITH N IN CONC. OF 5 TIMES 10 PRIME17-2 TIMES 10
PRIME18 CM NEGATIVE PRIME3 AT 20 AND 77DEGREE SK. AT 20DEGREE SK THE
SPECTRUM OF EACH POLYTYPE (4H, 6H, 27H, 15R AND 21R) CONSISTS OF
OVERLAPPING BANDS. INCREASE IN TEMP. TO 77DEGREE SK DECREASES THE
INTENSITY OF LUMINESCENCE AND CAUSES THE APPEARANCE OF ADDNL. BANDS.
THE STRONGEST QUENCHING OF PHOTOLUMINESCENCE FOR ALL POLYTYPES OCCURS IN
THE INTERVAL 100-150DEGREE SK. FACILITY: INST. POLUPROV., KIEV,
USSR.

UNCLASSIFIED

USSR

UDC 612.744

KRASNOVA, A. F., LENKOVA, R. I., LESHKEVICH, L. G., MANISIMOVA, L. V.,
~~CHAGOVETS, N. R.~~, and YAKOVLEV, N. N., Sector of Biochemistry, Leningrad
Institute of Physical Training, Leningrad

"Characteristics of Energy Metabolism in Muscular Activity in Relation to
the Degree of Adaptation of the Organism to This Activity"

Leningrad, Fiziologicheskii Zhurnal SSSR imeni I. M. Sechenova, Vol 58, No 1,
Jan 72, pp 114-121

Abstract: A study conducted on more than 250 athletes of various degree of
experience and training indicated that with increasing adaptation of the or-
ganism to intensive muscular activity there was an increase in the level of
sugar and lactate in the blood at which reinforced mobilization and utiliza-
tion of fatty acids in connection with muscular effort could take place. As
a result a more effective supply of the working muscles with energy sources
was ensured and the ATP balance was disturbed to a lesser extent. This
constituted a factor that increased the working capacity.

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USSR

UDC: 612.744.2

YAKOVLEVA, N. N., KRASNOVA, A. F., LENKOVA, R. I., SANGEDANOVA, G. I., and
CHAGOVETS, N. R., ~~Biochemistry~~ Sector, Leningrad Research Institute of Physical
Culture

"Restoration After Muscular Activity Under Different Temperature Conditions"

Leningrad, Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenova, No 4, 1971,
pp 556-561

Abstract: Fifteen minutes swimming in water at 32°C produced in rats previously trained (3 months) for this activity a more economical consumption of glycogen, creatine phosphate, and mitochondrial protein, smaller increase in blood and muscle lactate and blood sugar levels, and less intense enzymic activity compared with untrained controls. Moreover, the biochemical changes occurring in the rest period were indistinct or absent (e.g., no supercompensation of glycogen and creatine phosphate content, hypolactacidemia, decrease in cytochrome oxidase activity) in the trained animals. On the other hand, swimming in water at 22°C produced far greater biochemical changes in the muscles of the trained rats than swimming in water at an optimum temperature (32°C) did in the untrained animals. And during the recovery period the trained rats

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YAKOVELVA, N. N., et al., Fiziologicheskii Zhurnal SSSR imeni I. M. Sechenova,
No 4, 1971, pp 556-561

exhibited marked supercompensation of the glycogen content of the muscles,
mitochondrial protein, and creatine phosphate, distinct hypolactacidemia,
decrease in muscle lactic acid below the original level, and increased
activity of the redox enzymes.

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KRASNOVA, E. I.

1675-5819 53
30 Jan 73

Key: 1. Cipher

Case No.	Case Name	Case Type	Case Status
1000-001	John Doe	Case 1	Open
1000-002	Jane Smith	Case 2	Closed
1000-003	Bob Johnson	Case 3	Open
1000-004	Alice Brown	Case 4	Closed
1000-005	Charlie Davis	Case 5	Open

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TRANSFORMATION OF SUBPOLYMERIC TO CRYSTALLINE BY HEAT OF 300-350°C. BY AROMATIC POLYIMIDES

[illegible]

It was shown that quantitative analysis of aromatic radicals leads to the appearance in the chromatograms of a new component, which is identified as allyl hydroperoxide. The catalytic and dehydrogenative activity of the compounds increases with the increase in the radical (Phenomenology, No. 3, p. 59, 1972).

Quantitation of nitrogen-containing groupings of acetylcholine receptors is possible by the appearance in it of methyllithium bromide. The method is described in the paper by G. A. Linnik, V. A. Kiselev, and V. A. Nikitichina, 1976.

The investigation involves the synthesis and pharmacological study of quaternary-salts derivatives of other complex ethers. The objectives of the work is to establish whether there appears a marked anesthetic action upon administration of anisyl which is a pure α -cellulose glycoside. Thus, for David and V. G. Tori and V. F. Chirapovan synthesized a series of bis anisyl and aryl-allylallylhalides.

$$\begin{array}{c} \text{CH}_3 \\ | \\ \text{C}_{60}\text{H}_8\text{-N-CH}_2\text{CH}_2\text{CH}_2\text{-N} \\ | \\ \text{CH}_3 \end{array}$$

(1) unsub in

1434-44	CH ₂
1434-47	CH ₂
1434-48	CH ₂
1434-49	CH ₂
1434-50	CH ₂
1434-51	CH ₂
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1434-57	CH ₂
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1434-69	CH ₂
1434-70	CH ₂
1434-71	CH ₂
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1434-73	CH ₂
1434-74	CH ₂
1434-75	CH ₂
1434-76	CH ₂
1434-77	CH ₂
1434-78	CH ₂
1434-79	CH ₂
1434-80	CH ₂
1434-81	CH ₂
1434-82	CH ₂
1434-83	CH ₂
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1434-86	CH ₂
1434-87	CH ₂
1434-88	CH ₂
1434-89	CH ₂
1434-90	CH ₂
1434-91	CH ₂
1434-92	CH ₂
1434-93	CH ₂
1434-94	CH ₂
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1434-96	CH ₂
1434-97	CH ₂
1434-98	CH ₂
1434-99	CH ₂
1434-100	CH ₂

USSR

UDC 669.715'5'721:539.27:539.4.016.3

GERASIMOVA, L. G., KRASNOVA, E. P., KOVALEVA, L. V.

"Variation of the Structure of the Phase Composition and Properties of the Alloy of the Al-Zn-Mg System with the Ratio $Mg/Zn \geq 2$ During the Heat Treatment Process"

V sb. Metallovedeniye (Physical Metallurgy---collection of works), No 15, Lenin-grad, Sudostroyeniye Press, 1971, pp 119-128 (from RZh-Metallurgiya, No 4, Apr 72, Abstract No 41644)

Translation: A study was made of the structure and phase composition of an alloy of the Al-Zn-Mg system with the ratio $Mg/Zn \geq 2$ by the methods of electron microscopy. The fine structure of the alloy quenched and aged with respect to different conditions was studied. An effort was made to establish the relation between the structural variations and the strength characteristics of the alloy. The decomposition scheme of the supersaturated solid solution during the aging process proposed earlier by the VIAM [All-Union Scientific Research Institute of Aviation Materials] for alloys with a Mg/Zn ratio ≥ 1 was confirmed. 6 illustrations, 1 table, and a 20-entry bibliography.

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1/2 '019 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--EFFECT OF TEMPERATURE ON THE ADSORPTION OF GELATIN AND GELATIN
ACTIVATED COLLOIDAL PARTICLES ON THE FREE SURFACE OF A HYDROSOL AIR
AUTHOR--KRASNOVA, G.S., SKRYLEV, L.D., MOKRUSHIN, S.G. K

COUNTRY OF INFO--USSR

SOURCE--ZH. PRIKL. KHIM. (LENINGRAD) 1970, 43(3) 692-5

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--COLLOID, ADSORPTION, GEL, SULFIDE, HIGH TEMPERATURE EFFECT

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1993/0279

STEP NO--UR/0080/70/01/002/0592/0595

CIRC ACCESSION NO--AP0113209

UNCLASSIFIED

2/2 019

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC. ACCESSION NO--AP0113209

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. AT 20DEGREES AIR BUBBLES UNDER DYNAMIC CONDITIONS ADSORBED 3.0 AND 6.0 TIMES 10 PRIME NEGATIVE 7 G-CM² OF GELATIN FROM ITS 0.02 AND 0.07PERCENT SOLNS., RESP. AN INCREASE OR A DECREASE OF THIS TEMP. LOWERED THE ADSORPTION OF GELATIN. ADSORPTION OF PARTICLES OF HYDROSOLS OF CD AND SB SULFIDES ACTIVATED WITH GELATIN BY AIR BUBBLES WAS INDEPENDENT OF TEMP. FROM 15 TO 45DEGREES, WHILE THE ADSORPTION OF ACTIVATED PB SULFIDE AND CU FERROCYANIDE HYDROSOLS DECREASESHARPLY IN THE SAME TEMP. INTERVAL. THIS OBSERVATION IS EXPLAINED BY THE ADSORPTION OF DISPERSED GELATIN BY COLLOIDAL SULFIDES OF CD AND SB, WHICH WERE COMPOSED OF SMALLER PARTICLES WHEN COMPARED TO PB AND CU CONTG. HYDROSOLS.

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UDC 576.851.49.095.335:546.46].

083.3

KRASNOVA, I. Ye., and ZHDANOVA, L. G., Moscow Institute of Vaccines and
~~Sera~~ Imeni Mechnikov

"Utilization of Magnesium by Typhoid Bacteria During Continuous Culturing"

Moscow, Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 2, 1973,
pp 133-134

Abstract: Utilization of magnesium by *S. typhi* vaccine strain Ty₂ 4446 was studied in the presence of varying glucose concentration (0.02-15 gm/liter) and dilution rates (0.2-0.7 liters/hour). The logarithm of the unit rate of consumption was found to be linearly proportional (to the 4th power) to the dilution rate in the presence of both excess and limited glucose. Such increases in consumption rates were reflected in cell magnesium content, which increased by a power of 2 in limited glucose and by a power of 3 in excess glucose. The number of cells in the culture was also important: Consumption rate in logarithmic terms was linear and inversely dependent on cell number. Finally it was shown that magnesium consumption rates varied more widely in response to changing dilution rates for pathogenic than nonpathogenic (eg *Aerobacter aerogenes*) bacteria. It is suggested that the effects of glucose content in substrate on
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USSR

KRASNOVA, I. Ye. and ZHDANOVA, L. G., Zhurnal Mikrobiologii, Epidemiologii, i Immunobiologii, No 2, 1973, pp 133-134

magnesium utilization and the differences in cell magnesium concentration between pathogenic and nonpathogenic bacteria stem from specific physiological properties of the bacteria.

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USSR
Adsorption

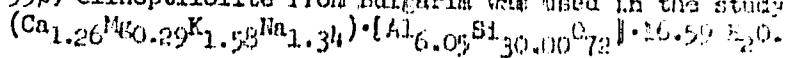
USSR

BELITSKIY, I. A., SHCHERBATYUK, N. YE., KRASNOVA, L. V., FILIZOVA, L. D.,
TYURINA, YE. F.

"Sorption Properties of Cation-Substituted Forms of Clinoptilolite"

Novosibirsk, Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSSR -- Seriya
Khimicheskikh Nauk, No 1, 1973, pp 84-87

Abstract: This paper is a continuation of the study of the sorption and molecular-screen properties of high-silicon heulandite-clinoptilolite, the natural forms of which were investigated previously [I. A. Belitskiy, et al., Izv. Sib. Otd. AN SSSR, ser. Khim. nauk, No 14, vyp. 6, 1971]. Just as before, monomineral ($\sim 99\%$) clinoptilolite from Bulgaria was used in the study:



The study was made of the sorption properties of the clinoptilolite with respect to water vapor and methanol and six samples of cation-sensitive forms obtained by ion exchange based on clinoptilolite with lithium, sodium, potassium, rubidium, cesium and thallium ions as the "consolidated" cations.

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USSR

FELITSKIY, I. A., ET AL., Izvestiya Sibirskogo Otdeleniya Akademii Nauk SSR -- Seriya Khimicheskikh Nauk, No 1, 1973, pp 84-87

A reduction in the sorptive power was discovered going from the lithium cation form to the cesium cation form. This is connected with the reduction and degree of hydration of the cations increasing in size and also with a decrease in the free volume of the cavities.

The parameters of the microporous structure of the indicated sorbents were calculated on the basis of the Dubinin-Radushkevich theory of volumetric filling of the micropores. The lithium, sodium and potassium forms of clinoptilolite are characterized by the greatest sorption volume equal to 0.22-0.110.

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1/2 020 UNCLASSIFIED PROCESSING DATE--300C170
TITLE--STRUCTURE OF PRODUCTS FROM PENTENE POLYMERIZATION ON A PHOSPHORUS
CATALYST -U-
AUTHOR--(05)--KOLESNIKOVA, T.A., KOLBIN, M.A., KAYUMOV, R.L., KRASHOVA,
~~L.V.~~ GRUDNIKOVA, A.F.
COUNTRY OF INFO--USSR
SOURCE--NEFTEPERERAB. NEFTEKHIM. (MOSCON) 1970, (1), 27-8
DATE PUBLISHED-----70
SUBJECT AREAS--CHEMISTRY, MATERIALS
TOPIC TAGS--AMYLENE, POLYMERIZATION, UIMERIZATION, SYNTHETIC RUBBER,
CHEMICAL PRODUCT PRODUCTION, HYDROGENATION, GAS CHROMATOGRAPHY, HEPTANE,
OCTANE, HEXANE
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1997/1766 STEP NO--UR/0318/70/000/001/0027/0028
CIRC ACCESSION NO--AP0120473
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0120473

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PREPN. OF ISOPENTENES FOR THE PRODUCTION OF SYNTHETIC RUBBER INVOLVES 2 STEPS: DIMERIZATION OF ISO AND N-C SUB5 FRACTIONS AND DEPOLYMER. TO PURE ISOPENTENES (T. A. KOLESNIKOVA, 1965). THE COMPN. OF DIMER MIXT. IS NOW DETD. THE DEHYDRATION OF ISOAMYL ALCS. OR AMUL ALCS. OVER AL SUB2 O SUB3 CATALYST AT 360DEGREES OR 365DEGREES GAVE 99-99.9PERCENT PURE 1,PENTENE, 2,PENTENE, 2,METHYL,1,BUTENE AND 2,METHYL,2,BUTENE. THE PENTENES WERE DIMERIZED AT 185DEGREES, 50 ATM, AND 1 HR PRIME NEGATIVE1 SPACE VOL. VELOCITY, OVER H SUB3 PD SUB4 ON SILICA GEL. THE PRODUCTS WERE HYDROGENATED AND ANALYZED BY GAS CHROMATOGRAPH. THE HYDROGENATED DIMERS, REGARDLESS OF THE STARTING PENTENE, CONTAINED 30-40PERCENT TRIMETHYLHEPTANES, SIMILAR TO 20PERCENT DIMETHYLOCTANES, SIMILAR TO 20PERCENT TETRAMETHYLHEXANES, AND SIMILAR TO 20PERCENT C SUB8 C SUB9, AND ISO-C SUB10 HYDROCARBONS.

UNCLASSIFIED

(3)

USSR

UDC 632.95

TROPIN, B. P., BEZUGLYY, S. F., BOROVIKOVA, L. N., COLYSHIN, N. M., ZAIKIN, B. A., KRASNOVA, M. V., and MIKHULYA, S. A.

"Method to Decrease Evaporation of Pesticide Droplets"

USSR Author's Certificate No 33913, filed 13 Oct 69, published 6 May 72
(from Referativnyy Zhurnal -- Khimiya, Svodnyy Tom (I, L-S), No 1(II), 1973,
Abstract No LN467P by T. A. Belyayeva)

Translation: In order to decrease evaporation of pesticide droplets during aerial application (from airplane), 0.1-5% of antievaporating agent is added to pesticide. A mixture consisting of high-molecular weight synthetic aliphatic alcohol fractions C₁₀ - C₁₆, C₁₀ - C₁₈, C₁₀ - C₂₀, nonionic surface-active substances (OP-4, OP-7, OP-10) and calcium dodecylbenzene-sulfonate can be used as antievaporating agent. Example. 85-93% primary aliphatic alcohols C₁₀ - C₁₆ or C₁₀ - C₁₈, 7-15% OP-7 or OP-10 are mixed to prepare the antievaporating agent (AE). One part of antievaporating agent is emulsified with 2-3 parts of water, the obtained emulsion is mixed with a suspensoid containing 3 parts of finely-dispersed wetting agent of copper oxychloride (90% strength), and water is added to make 100 parts. The emulsion-suspensoid prepared in this manner is used for aerial spraying of

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TROPIN, B. P., et al., USSR Author's Certificate No 333913, Filed 13 Oct 63, published 6 May 72

plants in the amount of 50 liters/ha. The fungicide layer on plants in this case is usually more dense than without the addition of AE. Data are presented on preparation of spraying mixtures consisting of different fungicides and insecticides with AE, as well as evaporation rates of different size of droplets with AE-3P and AE-4P and without them, both under laboratory and field conditions (spraying of sugar beets).

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Therapy

USSR.

UDC 616.981.551-085.373.39-032:611.619.57

KRYZHANOVSKIY, G. N. and KRASNOVA, N. M., Laboratory of the Pathological Physiology of Intoxication of Infections, Institute of Normal and Pathological Physiology, Academy of Medical Sciences USSR

"Intracisternal Injection of Tetanus Antitoxin in Experimental Tetanus"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, No 5, 1971, pp 38-42

Abstract: Intracisternal injection of tetanus antitoxin into rats with the ascending or hematogenous form of tetanus had a greater therapeutic effect than either the intravenous or intramuscular method. In the early stage of the disease (36 hours) when intravenous injection of the antitoxin did not prevent the animals from dying, intracisternal injection saved the lives of 50% of the animals, and the life-span of nonsurvivors that died was one and one-half times longer than the animals given intravenous injections of antitoxin. In the later stages of the diseases (after 48 to 50 hours with the ascending form and after 42 to 44 hours with the hematogenous form) neither intravenous nor intramuscular injection of the antitoxin had any effect on the course of the disease (all the animals died at about the same time as the untreated control), but intracisternal injection, although it did not prevent

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USSR

KRYZHANOVSKIY, G. N. and KRASNOVA, N. M., Byulleten' Eksperimental'noy Biologii i Meditsiny, No 5, 1971, pp 38-42

death, lengthened their survival time considerably (1 1/2 times). The survival time of these animals at this stage was somewhat longer than, or just as long as, that of the animals that received the antitoxin intravenously in the early period of the disease (after 36 hours).

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USSR

UDC 535.33

YERMAKOVA, YE. G., KRASHKOVA, T. L., MALYKHINA, N. N., MOSIN, A. M.,
ONOPRIYENKO, M. I., CHERNYSHEV, YE. A., and SHPAK, M. T., Institute of Physics,
Academy of Sciences Ukrainian SSR, Kiev

"Electron-Vibrational Absorption Spectra in the Near UV of Phenylsilane and
Methylphenylsilanes"

Kiev, Ukrainskiy Fizicheskiy Zhurnal, Vol 17, No 5, May 72, pp 811-817

Abstract: The article describes results of a study of electronic vapor and
crystal absorption spectra for phenylsilane $C_6H_5SiH_3$ and methylphenylsilanes
 $C_6H_5SiH_2CH_3$, $C_6H_5SiH(CH_3)_2$, $C_6H_5Si(CH_3)_3$, as well as a comparison of the ef-
fect of the silicon atom on the aromatic ring with the effect of carbon in
hydrocarbon molecules similar in structure. It was found that replacement of
the carbon atom by silicon in the molecules investigated results in a 300-500
 cm^{-1} increase in the spectrum shift to the long-wavelength region and intensi-
fication of the transition considered. This indicates great distortion of
the hexagonal symmetry of the p1 cloud of the phenyl ring in organosilicon

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USSR

YERMAKOVA, YE. G., et al., Ukrainskiy Fizicheskiy Zhurnal, Vol 17, No 5,
May 72, pp 811-817

molecules as compared to the analogous hydrocarbon molecules. The spectral data suggest that there is hyperconjugation between the Si-H bonds and the phenyl ring. Electronic excitation is found to have a greater effect on the silyl group than on the alkyl group, possibly due to the (p-d)_π-interaction between silicon and the pi electrons of the aromatic ring.

2/2

1/2 023 UNCLASSIFIED PROCESSING DATE--16OCT70
TITLE--EFFECT OF NONMAGNETIC IONS ON THE RELAXATION OF SPIN WAVES IN
YTTRIUM GARNETS CONTAINING RARE EARTH IONS -U-
AUTHOR--(04)--KRASNOVA, V.A., PILSHCHIKOV, A.I., SEDLITSKAYA, N.S.,
SILVESTROVICH, I.I.
COUNTRY OF INFO--USSR
SOURCE--FIZ. TVERD. TELA 1970, 12(3), 785-8
DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY, PHYSICS

TOPIC TAGS--YTTRIUM, GARNET, RARE EARTH METAL, ION, SAMARIUM, SPIN WAVE,
SPIN RELAXATION, MAGNETISM

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1995/1277

STEP NO--UR/0181/70/012/003/0785/0788

CIRC ACCESSION NO--AP0116739

UNCLASSIFIED

2/2 023

UNCLASSIFIED

PROCESSING DATE--16OCT70

CIRC ACCESSION NO--AP0116739

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SPIN WAVE RELAXATION
PARAMETER, DELTAETA SUBKAPPA, WAS INVESTIGATED IN POLYCRYST. Y AL AND Y
IN GARNETS CONTG. SMALL CONCNS. OF SM ION. DELTAETA SUBKAPPA WAS
MEASURED BY THE METHOD OF PARALLEL PUMPING AT 2890 MMU. WITH INCREASED
CONCN. OF NONMAGNETIC IONS, ESP. AL IONS, THE EFFICIENCY OF THE EFFECT
OF SM IONS ON DELTAETA SUBKAPPA INCREASES. THE POSSIBILITY IS DISCUSSED
OF AN EXPLANATION OF THE RESULTS WITH THE AID OF THE THEORY OF SLOW
RELAXATION. FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW,
USSR.

UNCLASSIFIED

1/2 012 UNCLASSIFIED PROCESSING DATE--18SEP70
TITLE--THERMAL STABILITY OF SCANDIUM HYDROXIDE THIOCYANATE -U-

AUTHOR--(04)-GULIA, V.G., KOMISSAROVA, L.N., KRASNOMARSKAYA, A.A., SAS,
T.M.

COUNTRY OF INFO--USSR

SOURCE--VESTN. MOSK. UNIV., KHIM. 1970, 11(1), 38-41

DATE PUBLISHED-----70

SUBJECT AREAS--CHEMISTRY

TOPIC TAGS--THERMAL STABILITY, SCANDIUM COMPOUND, HYDROXIDE, THIOCYANATE,
HYDROLYSIS, CHEMICAL DECOMPOSITION

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1987/1098

STEP NO--UR/01897/0/011/001/0033/0041

CIRC ACCESSION NO--AP0104496

UNCLASSIFIED

2/2 012

UNCLASSIFIED

PROCESSING DATE--18SEP70

CIRC ACCESSION NO--AP0104496

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE THERMAL STABILITY OF SC
HYDROXIDE THIOCYANATE SC SUB4 (OH)SUB2(NCS)SUB10.11H SUB2 O IS STUDIED.
THE COMPD. IS COMPLETELY UNSTABLE IN AIR EVEN AT ROOM TEMP. IT IS
HYDROSCOPIC, ABSORBS MOISTURE INCREASING ITS WT. BY 24.71PERCENT, AND
THEN SLOWLY DECOMPS. BY HYDROLYSIS.

UNCLASSIFIED

USSR

UDC 612.273+612.018

SIMANOVSKIY, L. N., KRASNOVSKAYA, I. A., PRIGOROVSKAYA, M. P., and
TAVPOVSKAYA, T. V., Laboratory for the Study of the Resistance of the Organism,
Laboratory of Endocrinology, and Laboratory of the Development of Adaptive-
Trophic Functions of the Nervous System, Institute of Evolutionary Physiology
and Biochemistry imeni I. N. Sechenov, Academy of Sciences USSR, Leningrad

"Changes in the Neuroendocrine System in White Rats During Adaptation to
Hypoxia"

Leningrad, Fiziologicheskiy Zhurnal SSSR imeni I. M. Sechenov, Vol 59, No 5,
1973, pp 828-836

Abstract: Tests were performed on rats exposed (in a barochamber) to a
simulated altitude of 2,000 to 7,600 m for up to 3 months. Groups of animals
were sacrificed at intervals and tissue samples collected for analysis. Mor-
phological changes concerning cytoplasm, nuclei, and vascularization proceeded
in two phases, giving rise to corresponding functional alterations. In the
initial days of hypoxia, a certain activation of the hypothalamic-neurohypo-
physeal system (HNHS), adenohypophysis, and the thyroid gland was observed.
From the 14-20th day on, synthesis of HNHS hormones was reduced, though these
hormones were readily released from the neurohypophysis into blood. Similarly,

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USSR

SIMANOVSKIY, L. N., et al., Fiziologicheskii Zhurnal SSSR imeni I. M. Sechenov, Vol 59, No 5, 1973, pp 828-836

from the 30th to the 90th day, production of the TSH in the adenohypophysis and the activity of the thyroid gland progressively decreased. On the other hand, concentration of catecholamines and insulin in blood plasma and utilization of these hormones in tissues were increased throughout the duration of the hypoxia. The concluding paragraph states that the observed changes are significant and will be discussed in a separate article.

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USSR

UDC 617.7-007.681-07-039.11:612.842.6-085.361]-092.9

KRASNOVID, T. A., Junior Scientific Associate, Odessa Scientific Research
Institute of Eye Diseases and Tissue Therapy imeni Academician V. P. Filatov

"Diurnal Variations of Intraocular Pressure in the Light of the General
Problem of Biological Rhythms"

Odessa, Oftal'mologicheskii Zhurnal, No 3, 1972, pp 197-200

Abstract: Intraocular pressure is one of a number of physiological processes subject to regular diurnal rhythmic fluctuations, disruption of which is the earliest sign of the glaucomatous process. The effect of environmental periodicity on the neurohumoral activity of the hypothalamus-hypophysis-adrenal system is discussed. Monkeys were first tested for diurnal tonometry under ordinary conditions; maximum intra-ocular pressure was observed in the evening, minimum in the morning, apparently paralleling the diurnal hormonal fluctuation of the hypothalamus-hypophysis-adrenal system. One group of animals was then exposed to conditions of 24 hour light, the other to 24 hour darkness, with no change in nutritional regime. It was found that when natural photoperiodicity was disturbed, both groups suffered a disruption of regular diurnal fluctuation, those exposed to constant light showing a higher level of ophthalmological tonus than those kept in darkness. Both

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USSR

KRASNOVID, T. A., 'Oftal'mologicheskii Zhurnal, No 3, 1972, pp 197-200

groups returned to normal when natural photoperiodicity was restored. It is concluded that light and darkness, which synchronize the diurnal rhythm of a number of physiological processes through optic impulses, influence the neurosecretory activity of the hypothalamus-hypophysis region controlling the hormonal activity of the adrenal cortex, which in turn regulates intra-ocular pressure, either by general shifts in the salt and water balance of the organism, or by localized changes in the eye.

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USSR

UDC: 551.511

KRASNOVSKAYA, L. I., LEVIN, A. V., TKACHENKO, A. V.

"Some Characteristics of Horizontal Turbulent Diffusion in the Atmosphere, and Estimation of These Characteristics in Accordance With the Distribution of an Impurity From an Instantaneous Source"

Tr. In-t eksperim. meteorol. Gl. upr. gidrometeorol. sluzhby pri Sov. Min. SSSR (Works. Institute of Experimental Meteorology. Main Administration of the Hydrometeorological Service Affiliated With the Council of Ministers of the USSR), 1972, vyp. 27, pp 76-82 (from RZh-Mekhanika, No 7, Jul 72, Abstract No 7B989)

Translation: On the basis of a diagram worked out for relative turbulent diffusion, the authors analyze experimental data on horizontal diffusion propagation of an impurity (reagent) in supercooled layered clouds. It is shown that all observed types of relations for the horizontal dimensions of a cloud of impurity L as a function of time t can be classified by four characteristic types. The membership of a specific experimental curve $L(t)$ in a given type class is determined by the numerical value of the dimensionless parameter λ^2 , which is a function of the variance of relative

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USSR

KRASNOVSKAYA, L. I. et al., Tr. In-t eksperim. meteorol. Gl. univ. gidrometeorol. sluzhby pri Sov. Min. SSSR, 1972, vyp. 27, pp 76-82

velocity of initial pulsations v_0^2 , the rate of dissipation of turbulence energy ϵ , and the characteristic Lagrangian of time T .

Experimental data are used to obtain estimates of the characteristics of horizontal turbulent diffusion: $(\overline{v^2})^{1/2} \approx 0.5 \text{ m} \cdot \text{s}^{-1}$, $T \approx 10^3 \text{ s}$, characteristic scale of length $\Lambda \approx 10^3 \text{ m}$, intensity of horizontal turbulent pulsations $v' = \Lambda/T \approx 1 \text{ m} \cdot \text{s}^{-1}$, $\epsilon \approx 5 \text{ cm}^2 \cdot \text{s}^{-3}$. Bibliography of 13 titles. Authors' abstract.

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USSR

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KRASOVITSKIY, V. B.

"Self-Excitation of a Molecular Beam Moving through a Retarding Medium"

Leningrad, Journal of Technical Physics; June 1970; pp 1,328-1,330

Abstract: The author considers a molecular beam moving through a retarding medium with a velocity greater than the speed of light. It is shown that in such a case the kinetic energy of the beam is converted into internal molecular energy, leading to a transition of the system to an inverted state. The elementary mechanism producing this effect is explained, and a nonlinear theory which allows one to trace the variation in the difference between the molecular levels of the beam is suggested.

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Phytology

USSR

WDC 577.45

LANG, F., VOROB'YEVA, L. M., and KRASNOVSKIY, A. A., Institute of Biochemistry
imeni A. N. Bakh, USSR Academy of Sciences, Moscow

"Chlorophyll Synthesis and Formation of Chloroplasts in Greening Normal and
Mutant Maize Leaves"

Moscow, Molekulyarnaya Biologiya, Vol 5, No 3, May/Jun 71, pp 366-374

Abstract: The correlation between fluorescence spectra, quantity of chlorophyll pigments, and development of chloroplasts was studied in normal and carotenoid mutant maize leaves during the greening process at low intensity light (25 lux). In the fluorescence spectra of normal and mutant leaves recorded at low temperature (77°K), a maximum at 635 millimicrons corresponds to protochlorophyll; at 655 -- to protochlorophyllide; at 672 -- to chlorophyll; and at 686 -- to chlorophyllide. Exposure to light results in a fast photoconversion of protochlorophyllide and protochlorophyll in etiolated leaves, while no such conversion takes place in normal leaves. In the mutants, photolysis of chlorophyllide begins in earlier stages of greening and proceeds at a faster rate than in normal maize plants. Investigation of the chloroplast structure in different stages of the greening process revealed the presence of prolamellar

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USSR

LANG, F., et al, Molekulyarnaya Biologiya, Vol. 5, No. 3, May/Jun 71, pp 365-374

bodies in the proplastids of both the etiolated normal and mutant leaves. After 3-5 hours of illumination, circular lamellar systems are formed in normal and mutant plastids. After a 24-hour exposure to light, granules are formed in normal but not in mutant chloroplasts. After prolonged illumination, mutant chloroplasts also form granules, though of a different structure. Mutant chloroplasts are highly heterogenic. No correlation was found between chlorophyll synthesis and formation of chloroplast structures in greening leaves exposed to low intensity light even though, according to other investigators, such correlation exists during exposure to high intensity light.

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USSR

UDC: 577.45

BYSTROVA, M. I. and KRASHOVSKIY, A. A., Institute of Biochemistry imeni A. N. Bakht, USSR Academy of Sciences, Moscow

"Photochemical Properties of Various Types of Aggregated Forms of Chlorophyll a and Bacterioviridin"

Moscow, Molekulyarnaya Biologiya, Vol 5, No 2, Mar/Apr 71, pp 291-301

Abstract: Pigment aggregates in photosynthesizing organisms fulfill various photochemical functions in photosynthesis and are distinguished by their intermolecular interactions. A comparative study was made of the capacity of various types of chlorophyll a and bacterioviridin aggregates to undergo destructive photochemical oxidation and to exert a photosensitizing effect in a water-methanol system, in which two types of pigment forms with different degrees of aggregation and with two sufficiently separated absorption maxima at 670-677 and 712-730 mμ are observed. Chlorophyll a was isolated from lettuce leaves and purified by chromatography. Bacterioviridin was extracted by acetone from *Chloropseudomonas ethylica* cells. In colloidal solutions containing methanol, two types of aggregate forms were produced and the thermal stability of these aggregates was

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USSR

BYSTROVA, M. I. and KRASNOVSKIY, A. A., *Molekulyarnaya Biologiya*, Vol 5, No 2, Mar/Apr 71, pp 291-301

studied. It was found that the long-wavelength forms of the pigments have a greater photooxidation rate than that of the less aggregated short-wavelength forms; this difference in the photooxidation rate increases with increasing temperature (from 8 to 28°C). The photosensitive long-wavelength forms of chlorophyll a are thermally unstable and on warming (to 70°C and more), they are transformed into forms with a lesser degree of aggregation. The long-wavelength forms of bacterioviridin exhibit thermal stability. Both types of aggregates (short-wavelength and long-wavelength) of chlorophyll a and bacterioviridin exhibit the same photosensitizing activity in the methyl red photoreduction of ascorbic acid. The measured quantum yield of this reaction was about 1.5%, which is approximately one order of magnitude lower than the quantum yield of the same reaction in true solutions.

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1/2 014 UNCLASSIFIED PROCESSING DATE--11SEP70
TITLE--MULTISTEP PHOTOOXIDATION OF BACTERIOCHLOROPHYLL. FLUORESCENCE AND
ABSORPTION SPECTRA OF INTERMEDIATE FORMS -U-
AUTHOR--KRASNOVSKIY, A., DROZDOVA, N., BOKUCHAVA, E. *K*
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(2) 464-7
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--FLUORESCENCE, ABSORPTION SPECTRUM, CHLOROPHYLL, PIGMENT,
ASCORBIC ACID, BACTERIA, PYRIDINE, PHOTOOXIDATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRAE--1985/1798 STEP NO--UR/0020/70/190/002/0464/0467
CIRC ACCESSION NO--AT0101845
UNCLASSIFIED

2/2 014

UNCLASSIFIED

PROCESSING DATE--11SEP70

CIRC ACCESSION NO--AT0101845

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ABSORBANCE SPECTRA WERE REPORTED FOR PHOTOOXIDIN. OF BACTERIOCHLOROPHYLL BY O BENZOQUINONE IN MEPM. THE RESULTS SUGGEST THAT THE REACTION CONSISTS OF A 2 STEP 2 ELECTRON OXIDN. TO CHLOROPHYLL AND PROTOCHLOROPHYLL LIKE SUBSTANCES WHEN THE REACTION EMPLOYS O BENZOQUINONE. ADDN. OF PHMHNH SUB2 TO THE OXIDIZED MATERIAL DID NOT REGENERATE THE PIGMENT IN THE DARK BUT ILLUMINATION DID LEAD TO THE REVERSE REACTION. ASCORBIC ACID IN PYRIDINE LED TO MINOR REVERSION IN THE DARK AND UP TO 10PERCENT REVERSION IN LIGHT. ADDN. OF O BENZOQUINONE AND ASCORBIC ACID AND SUBSEQUENT ILLUMINATION OF BACTERIOCHLOROPHYLL RESULTED ONLY IN THE USUAL PHOTOREDN. TO FORM THE RED PIGMENT.

UNCLASSIFIED

1/2 024 UNCLASSIFIED PROCESSING DATE--30OCT70
TITLE--SPECTROFLUORIMETRY OF PIGMENTS OF THE INITIAL STRAIN AND
PROTOCHLOROPHYLL MUTANTS RHODOPSEUDOMONAS PALUSTRIS -U-
AUTHOR--(04)-KRASNOVSKIY, A.A., FEDENKO, YE.P., LANG, F., KONDRATYEVA,
YE.N.
COUNTRY OF INFO--USSR
SOURCE--DOKL. AKAD. NAUK SSSR 1970, 190(1), 218-21 (BIOCHEM)
DATE PUBLISHED-----70
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES
TOPIC TAGS--CHLOROPHYLL, BIOLOGIC PIGMENT, BIOSYNTHESIS, FLUORESCENCE,
BACTERIA MUTATION
CONTROL MARKING--NO RESTRICTIONS
DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1997/1096 STEP NO--UR/0020/70/190/001/0218/0221
CIRC ACCESSION NO--AT0119955
UNCLASSIFIED

2/2 024

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0119955

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE PHYTIN AND PHYTIN FREE FORMS OF PROTOCHLOROPHYLL PIGMENT WERE FOUND IN THE 5 MUTANTS OF THE TITLE ORGANISM; THESE MUTANTS CARRIED MUCH SMALLER AMTS. OF THE PIGMENTS THAN DID THE PARENT FORM. IN ADDN. ALL MUTANTS ALSO CONTAINED, AS DID THE PARENT FORM, CHLOROPHYLL LIKE PIGMENTS WITH MAXIMA OF FLUORESCENCE IN 658,674 AND 700 M MU REGIONS. THESE ARE POSSIBLY INTERMEDIATES IN BIOSYNTHESIS OF BACTERIOCHLOROPHYLL. IM. BAKHA, MOSCOW, USSR.

FACILITY: INST. BIOKHM.

UNCLASSIFIED

1/2 013 UNCLASSIFIED PROCESSING DATE--04DEC70
TITLE--FLUOROMETRIC METHOD FOR DETERMINING PHEOPHYTIN IN PLANT LEAVES -U-

AUTHOR--(02)-KRASNOVSKIY, A.A., SHAPOSHNIKOVA, M.G.

COUNTRY OF INFO--USSR

SOURCE--FIZIOL. RAST. 1970, 17(2) 436-9

DATE PUBLISHED---- --70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--BIOLOGIC PIGMENT, THIN LAYER CHROMATOGRAPHY, CHROMATOGRAPHIC
SEPARATION, PLANT PHYSIOLOGY, CHEMICAL ANALYSIS, FLUOROMETER,
CHLOROPHYLL

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED

PROXY REEL/FRAME--3003/1094

STEP NO--UR/0326/70/017/002/0436/0439

CIRC ACCESSION NO--AP0130127

UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO--AP0130127

ABSTRACT/EXTRACT--(U) GP-0-, ABSTRACT. PHEOPHYTIN (I) IS ASSAYED IN
PLANT LEAVES BY THIN LAYER CHROMATOGRAPHIC SEPN. AND MEASUREMENT OF THE
FLUORESCENCE OF THE I ELUATES. THE AMT. OF I DETD. IN LEAVES VARIED
BETWEEN 1.5 AND 2.3PERCENT OF THE TOTAL AMT. OF CHLOROPHYLLS A PLUS B.

FACILITY: A. N. BAKH INST. BIOCHEM., MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC:666.97.035.51

KRASNOVSKIY B. M. Candidate of Technical Sciences

"Heat Treatment of Reinforced Structures by Induction Method"

Moscow, Beton i Zhelezobeton, No. 1, Jan 71, pp. 7-9

Abstract: In contrast to other heat treatment methods, the source of thermal energy in concrete with induction heating is the reinforcement or steel casing, which converts the energy of the alternating electromagnetic field to thermal energy. The intensity of the heat source in this case is independent of the physical and mechanical or electrical properties of the concrete, and is determined only by the electrical and magnetic properties of the heat source itself (reinforcement or metallic casing) and the intensity of the magnetic field. A mathematical analysis of the process is presented, indicating the proper heat treatment modes for production of high quality concrete. Compressive strength test results of concrete are presented, indicating the influence of preliminary holding before heat treatment on adhesion between reinforcement and concrete and compressive strength of concrete.

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Logic & Game Theory

USSR

VCD 62-50

KRASOVSKIY, N. N. and SUBBOTIN, A. I., Sverdlovsk

"Approximation in a Differential Game"

Moscow, Prikladnaya Matematika i Mekhanika, Vol 37, No 2, Mar - Apr 1973, pp 197-204

Abstract: The material in this article is a further development of positions described by the same authors in various previous papers, particularly in this journal Volume 34, No 6 (1970). This article covers a special case of the type of problems described in this previous citation. The basic situation is a differential game described by the equation $\dot{x} = f(t, x, u, v)$, where x is a phase vector and u and v are the control strategies of the players. The first player is striving to approach a specific point in the game space. The previous article demonstrated that the problem of approaching this point within a specific time frame is solved by constructing a set which is u -stable with respect to the target set, contains the initial position, and intersects the target set within the required time. This set is called a stable bridge in the (t, x) space. A specific example of such a set is the set of "positional absorption" of the target set at the desired moment. The desired strategy is extremal to the stable bridge.

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USSR

KRASOVSKIY, N. N. et al., Moscow, Prikladnaya Matematika i Mekhanika, Vol 37, No 2, Mar - April 1973, pp 197 - 204

On the basis of this formal structure, a stochastic procedure can be developed which, with sufficiently small steps, will approach the target within any pre-defined neighborhood. However, if there is an error in the control organ, an additional lower bound on the step size may be required. This may introduce excessive limitations on the measurement error. The present article describes a minor change in the strategies discussed by the authors in Dokl. AN SSSR, Vol 196, No 2 (1970) and by Baybazarov in Izv. AN SSSR, Technical Cybernetics, No 2 (1972), basically requiring a replacement of the extremal control which also attempts to move the control point sufficiently close to the target, but not necessarily to the closest possible point of the target set. The procedure is illustrated with examples, some of which refer to previous publications cited in the bibliography. In particular, a procedure given by the authors in Tr. Matem. in-ta. AN SSSR, Vol 128 (1972) should be replaced by the procedure given in this article for some irregular cases as described.

The authors feel that the procedure described relates the theory of strictly positional differential games to a theory suggested by L. S. Pontryagin (Us. ekhi Matem. Nauk, Vol 21, No 4, 1967; Miroshchenko and Pontryagin, Dokl. AN SSSR, Vol 174, No 1, 1967; Pontryagin, Dokl. AN SSSR, Vol 174, No 6, Vol 175, No 4, 1967).

2/3

USSR

KRASOVSKIY, N. N. et al., Moscow, Prikladnaya Matematika i Mekhanika, Vol 37, No 2, Mar - April 1973, pp 197 - 204

The two approaches yield a stable combined control scheme based solely on information about the achieved states of the controlled object.

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USSR

UDC: 62-50

KRASOVSKIY, N. N.

"Extremal Control in a Nonlinear Differential Game"

Moscow, Prikladnaya Matematika i Mekhanika, vol. 36. No 6, 1972, pp 986-1006

Abstract: The author considers a control system described by the vector differential equation $\dot{x} = f(t, x, u, v)$, where x is a phased n -dimensioned vector of the system, u and v are r -dimensioned vectors controlling the action of the game subject to the first and second players respectively and constrained by the conditions $u \in P$ and $v \in Q$ (where P and Q are limited closed sets). The function f is assumed continuous for all considered values of the arguments and satisfies the Lipschitz condition for x in every limited region $\{x\}$ in space. It is further assumed, as a condition of the problem, that a closed set M , which is the goal of the first player, exists in the region $\{x\}$. Among other factors in the problem, the author discusses programmed controls, auxiliary programmed problems, regularity conditions, and programmed absorption sets. A sufficient condition for the regularity of the game is given.

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USSR

UDC 517.91

KRASOVSKIY, N. N., Academician, SUBBOTIN, A. I., and UNYAKOV, V. N., Institute of Mathematics and Mechanics of Ural Scientific Center, Academy of Sciences USSR, Sverdlovsk

"Minimax Differential Game"

Moscow, Doklady Akademii Nauk SSSR, Vol 206, No 2, 1972, pp 277-280

Abstract: The article considers a conflict-controlled system whose motion is described by the equation

$$\dot{x} = f(t, x, u, v).$$

Here x is an n -dimensional phase vector; u and v are control vectors of players 1 and 2 which satisfy the constraints $u \in P$, $v \in Q$, where P and Q are certain compacta; $f(t, x, u, v)$ is a continuous function satisfying the Lipschitz condition with respect to x in each bounded region. It is assumed that the motions of the system can be continued for any finite time interval.

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USSR

KRASOVSKIY, N. N., et al., Doklady Akademii Nauk SSSR, Vol 206, No 2, 1972, pp 277-280

The closed sets M and N are given in the space $\{p = (t, x)\}$. A study is made of the guidance problem confronting player 1: using information on position $(t, x[t])$ being realized, player 1 must select a control $u[t]$ such that, without disturbing the phase constraint $(t, x[t]) \in N$, the point $(t, x[t])$ is brought onto set M . The opponent's behavior is constrained only by the constraint $v[t] \in Q$, and cases are not excluded where the selection of control $v[t]$ also rests on information about the control $u[t]$ which is being realized.

This is the essence of the problem to which the study of many differential games reduces. The article gives a mathematical formalization of the problem which fully reflects this essence. It is shown that the guidance

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USSR

KRASOVSKIY, N. N., et al., Doklady Akademii Nauk SSSR, Vol 206, No 2, 1972, pp 277-280

problem is unsolvable in the proposed system of definitions and cannot have a solution under any positional method of forming the control u . A study of the solvability conditions of the guidance problem contains elements of a constructive solution. There is no assumption as to the fulfillment of the condition

$$\min_{v \in Q} \max_{u \in P} s'(t, x, u, v) = \max_{u \in P} \min_{v \in Q} s'(t, x, u, v)$$

under which typical differential games possess equilibrium situations in a class of pure positional strategies.

3/3

1/2 014 UNCLASSIFIED PROCESSING DATE--13NOV70
TITLE--THERMAL STABILITY OF HEXATHIOCYANATOSCANDATE OF THE ALKALI METALS
-U-
AUTHOR--(04)-GULIA, V.G., KOMISSAROVA, L.N., KRASNODYARSKAYA, A.A., SAS,
T.M.
COUNTRY OF INFO--USSR
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RUBIDIUM COMPOUND
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2/2 014 UNCLASSIFIED PROCESSING DATE--1340V70
CIRC ACCESSION NO--AP0132291
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. STABILITY OF M SUB3 (SCINCS)
SUB6). NH SUB2 O (I) INCREASED WITH M IN THE ORDER: M EQUALS LI LESS
THAN NA LESS THAN K LESS THAN R6 LESS THAN CS. DEHYDRATION OF I (M
EQUALS LI) WAS ACCOMPANIED BY DECOMPN. WHILE I (M EQUALS NA, CS, OR NH
SUB4 PRIME POSITIVE) FORMED ANHYD. COMPLEXES. DTA DIAGRAMS OF THE
COMPLEXES AND THEIR THERMAL DECOMPN. SCHEMES ARE GIVEN. SC SUB2 O SUB3
AND M SUB2 SO SUB4 ARE THE FINAL DECOMPN. PRODUCTS OBTAINED.
FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

AA0040695- K

Krasnoyarsk, Pa. S.
un 0482

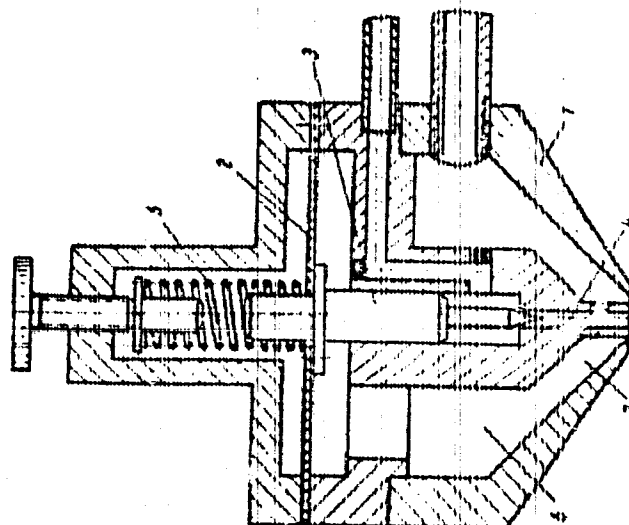
Soviet Inventions Illustrated, Section I Chemical, Derwent, 1-70

241152 JET TO ATOMISE SOLUTIONS comprising body, diaphragm and locking needle, differing in the locking needle being fixed on the diaphragm under which is a spring adjusted by a screw. This provides for applying the covering evenly; when used in the glass industry to apply conductive covering to horizontal glass. The jet consists of body 1, in which is diaphragm 2 carrying locking needle 3 covering channel 4 for supplying the solution. The diaphragm is loaded by adjustable working spring 5 and by the compressed air supplied for atomising. Air under pressure is supplied into air chamber 6 and flows out through nozzle 7. Due to displacement of the diaphragm, channel 4 is closed and opened by needle 3 at a given pressure of compressed air, fixed by the setting of spring 5. When air pressure is removed from chamber 6, the needle closes channel 4, and no trace of liquid is left on the edge of nozzle 7.

16.11.67 as 1197004/29-33. KRASNOYARSKII I.U.S. d.
RAEV M.A. (26.8.69.) Bul 13/1.4.69. Class 46c.
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AUTHORS: Krasnoyarskiy, Yu. S.; and Rayev, M. A.

3/2

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USSR

UDC 669.3'24.053.4

KHAVSKIY, N. N., KRASNOZHEN, S. V., ZELIKMAN, Yu. L., STARIKOV, A. M.

"Study of Effectiveness of Application of Ultrasound for Dispersion of Sulfide Copper-Nickel Ore"

Primeneniye Ul'trazvuka v Metallurg. Protsessakh [Use of Ultrasound in Metallurgical Process -- Collection of Works], Moscow, 1972, pp 145-147, (Translated from Referativnyy Zhurnal, Metallurgiya, No 5, 1972, Abstract No 5 G362 by the authors).

Translation: The possibility is studied of dispersion of sulfide Cu-Ni ore using US oscillations under atmospheric and increased hydrostatic pressure. The US source was a magnetostriction converter type PMS-6M. With an S-L ratio of 1:100, temperature 75°, and pressure in the operating chamber of 5 atm, an ore with a grain size of $100\% + 0.1 \text{ mm}$ is fully dispersed in 2 hours to a grain size of $100\% - 0.1 \text{ mm}$, 80% of the initial mass of the initial ore specimen being dispersed to this size in the first 15 minutes. 1 Figure; 3 Tables.

1/1

USSR

UDC 669.295.5:620.183

AGEYEV, N. V., BABAREKO, A. A., RUBINA, Ye. B., KHORSEV, A. I.,
KRASNOZHON, A. I., and BETSOFEN, S. Ya., Moscow

"Effect of the Processing Technology on the Texture of Rolled
Sheets of VT-5-1 and VT-14 Titanium Alloys"

Moscow, Izvestiya Akademii Nauk SSSR, No 5, 1973,
pp 150-159

Abstract: The development of the texture of α -phase in sheets, 2 mm thick, of VT-5-1 alloy and $\alpha+\beta$ -alloy VT-14 on rolling, depending on the reduction degree, the deformation, temperature, and the divisibility of rolling, was studied by the method of polar figures. The results are discussed by reference to the correlation of principal texture components and direct and reverse polar figures. The intensity of the basal plane texture in the α -phase VT-5-1 alloy grows monotonously with increasing reduction degree. In the $\alpha+\beta$ alloy VT-14, the basal texture changes not monotonously by changing deformation conditions;

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- 50 -

USSR

AGEYEV, N. V., et al., Izvestiya Akademii Nauk SSSR, No 5, 1971, pp 150-159

this is due to the influence of developing phase transformations $\alpha \rightarrow \beta$ and the twinning in the alloy. Cross rolling of the not overheated ingot slab from 6 to 2 mm, in 11-22 passages, at 700°C, or at 800°C by non fractional rolling is considered the optimum rolling system. A perfect basal texture in annealed sheets of VT-5-1 alloy leads to a high hardening effect at two-axial loading. Recrystallization annealing is of little effect on the type of the texture. A deflected basal texture of the VT-14 alloy does not effect a texture hardening in annealed and in dispersion-hardened sheets. Four figures, one table, ten bibliographic references.

2/2

USSR

UDC:

GOLICHEV, I. I. and KRASNUSHKIN, P. YE., Bashkir Branch of the USSR Academy of Sciences and the Mathematics Institute imeni V. A. Steklov of the USSR Academy of Sciences

"Spectral Source-Like Expansions in Wave Propagation Theory and in the Quantum Theory of Potential Scattering"

Moscow, Teoreticheskaya i Matematicheskaya Fizika, Vol 10, No 3, Mar 1972, pp 370-387

Abstract: The authors use linear, non self-adjoint, differential operators to obtain and study the spectral source-like solutions (expansion with respect to normal waves) to problems in the theory of radio wave propagation and the quantum theory of potential scattering. The study is in two stages: 1) spectral source-like expansion in the light of the spectral theory of operators, and 2) the mathematical basis for spectral source-like expansion. The latter includes the following: 1) construction of contour integrals, 2) theorem on expansion with respect to normal waves, and 3) proof as to the discrete nature of the spectrum and completeness. The authors express their gratitude to M. K. Polivanov, V. A. Kolkunov, and Ye. N. Fedorov for a series of interesting discussions related to the physical aspects of the problem. Original article: one figure, 37 formulas, and 27 bibliographic entries.

1/1

- 26 -

USSR

UDJ 538.576.23

~~KRASNUSHKIN, E.YE.~~, FEDOROV, YE.N.

"Multiplicity Of The Wave Numbers Of Normal Waves In Laminated Media"

Radiotekhnika i elektronika, Vol XVII, No 6, June 1972, pp 1129-1140

Abstract: Transformations of normal waves at neighboring points of a multiplicity of wave numbers are studied on the basis of the theory of not self-conjugate differential operators and the theory of many complex variables. Among the examples considered are waves of Type TH_z in the isotropic wave guide "earth--lower ionosphere." The model discussed relates to a summer day in the middle latitudes and makes it possible to calculate the field of super-long waves on sea routes. 4 fig. 24 ref. Received by editors, 12 April 1971.

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USSR

UDC 616.89-008.46-053.2-035.356:577.164.1

DERGACHEV, V. V., PIVOVAROVA, G. N., KHAMACHKOVA, T. G., SEZAGINYAN, Ye. V.,
KRASHNUSHKINA, N. A., KULIKOVA, N. V., and MOKROVSKIY, V. M., Medico-Biological
Faculty, Second Moscow Medical Institute imeni N. I. Pirogov and Department of
Higher Nervous Activity Institute of Hygiene of Children and Adolescents,
Ministry of Health USSR

"Orotic and Folic Acids and Vitamin B₁₂ in the Treatment of Children with Memory
Disorders"

Moscow, Sovetskaya Meditsina, Vol 33, No 7, Jul 70, pp 78-82

Abstract: Since the genetic apparatus contained in all cells preserves not only
phylogenetic but also ontogenetic information, and since nucleoproteins and nucleic
acids are essential constituents of the memory mechanism, a study was undertaken
in which the cofactors and precursors of proteins and nucleic acids -- orotic acid,
folic acid, and vitamin B₁₂ -- were administered to a group of children with disturbed
memory. The results indicated, that even though short-term memory, attention, and
certain other mental functions were not affected, long-term memory improved signif-
icantly. Positive results can be obtained only if treatment is begun early, before
marked organic changes develop in the central nervous system.

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5915

CSO: 1840

1/2 013
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PROCESSING DATE--30OCT70
AUTHOR--KRASNYANSKIY, E.
COUNTRY OF INFO--USSR
SOURCE--KOMSOMOL'SKAYA PRAVDA, AUGUST 9, 1970, P 4, COLS 4-7
DATE PUBLISHED--09AUG70
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UNCLASSIFIED

2/2 013

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AN0125508

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ARTICLE IS A VERY BRIEF
BIO SKETCH OF MIKHAIL TIMOFEYEVICH KALASHNIKOV, A SOVIET GUN DESIGNER WHO
DESIGNED THE AK-47, THE AUTOMATIC CARBINE USED BY THE VIETCONG.

UNCLASSIFIED

USSR

UDC 617.54-02:617.55-001.12-092.9]-073.75

TYUTIN, L. A., VOLOSHIN, V. G., and KRASNYKH, I. G.

"X-ray Study of the Thoracic Organs During Decompression of the Lower Half of the Body"

Moscow, Vestnik Rentgenologii i Radiologii, No 2, 1971, pp 25-30

Abstract: Healthy male subjects 20- to 25-years old were subjected to negative pressures of 40 mm Hg for 20 min and 80 mm Hg for 10 to 20 min after a rest period while lying on their backs in a special container with elastic girdles around their waists. X-rays taken at the end of the diastole revealed the presence of shifts normally observed after accelerations in a head-pelvis direction: downward displacement of the diaphragm and higher position of the lungs, decrease in the main dimensions of the heart (especially the length), decrease in blood flow in the vessels in the upper portions of the lungs, and some reduction in the diameter of vessels in the lower portions, decrease in the diastolic volume and filling of the heart cavities with blood, increase in the angle of slope of the cardiac axis, and marked increase in blood flow to the heart after rapid normalization of the pressure.

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USSR

KRASNYKH, V. I., Editor

"Precision Alloys: Collection of Works of the Central Order of the Red Banner of Labor Scientific Research Institute of Ferrous Metallurgy Imeni I. P. Bardin, Institute of Precision Alloys"

Moscow, Pretsizionnyye splavy, Sbornik trudov TsNIIChM, No. 78, "Metallurgiya" Publishing House, 1971, 288 pp

Abstract: The table of contents of the collection is as follows:

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KRASNYKH, V. I., *Pretsizionnyye splavy, Sbornik trudov TsNIIChM, No 78, "Metallurgiya" Publishing House, 1971, 288 pp*

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KRASNYKH, V. I., *Pretsizionnyye splavy*, Sbornik tradov TsvETICHM, No 78, "Metallurgiya" Publishing House, 1971, 288 pp

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777

USSR

UDC: 519.2

KRASNYTS'KYY, S. M.

"On a Limit Theorem for N. N. Chentsov's Random Field"

Visnyk Kiyiv. un-tu. Ser. mat. ta mekh. (Kiev University Herald. Mathematics and Mechanics Series), 1971, No 13, pp 133-135, 150 (from RZh-Kiber-netika, No 4, Apr 72, Abstract No 4v89)

Translation: A limit theorem for N. N. Chentsov's random field is proved. This theorem is analogous to that of P. Levi for the process of Brownian movement. Author's abstract.

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- 3 -

USSR

UDC 612.11/.12:07:661.41/.44

KRASNYUK, Ye. P., Kiev Scientific Research Institute of Labor Hygiene and Occupational Diseases

"Hematologic Shifts in Persons Handling Organochlorine Compounds"

Kiev, Vrachebnoye Delo, No 8, Aug 70, pp 138-142

Abstract: An analysis is presented of the results of hematological examinations of 1637 persons who had been working with organochlorine compounds (chlorine derivatives of methane, dichloroethane, DDT, hexachlorocyclohexane, etc.) for 10 years or more. The study revealed some shifts in the red blood count (RBC) and more pronounced shifts in the white blood count (WBC). The RBC ranged from 3,200,000 to 5,100,000 per mm³ of blood (average, 4,260,000±0.7235). Hemoglobin concentration averaged 75±1.1% and color index, 0.83±0.002, as compared with an average of 4,460,000±14,000, 81±3.1%, and 0.91±0.005, respectively, in the control group. Of the exposed workers, 88 (5.3%) showed symptoms of hypochromic anemia. The WBC was approximately 6100±31 per mm³ of blood, as compared with 6900-80 in the control. Leukocytosis was observed in 90 persons (5.5% of the total number examined), but leukopenia was over twice as common (192 persons, 11.7%). Leukopenia was caused mainly by a decrease in the number of granulocytes (neutrophils and eosinophils).

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- 90 -

USSR

UDC: 534.322.3+534.83

GALANENKO, V. B., KARNOVSKIY, M. I., and KRASHNYI, L. G.

"Statistical Analysis of Random Acoustical Fields"

Moscow, V sb. Tezisy dokl. 3-y Vses. shkoly--seminara po stat. gidroakustike, 1971 (Theses of Reports, Third All-Union School--Seminar on Statistical Hydroacoustics, 1971--collection of works) 1972, pp 136-145 (from RZh---Fizika, No 4, 1973, Abstract No 42h591)

Translation: In the investigation of stationary (uniform and non-uniform) acoustical fields in problems of measuring the probability characteristics of these fields, the time average is used as an estimate. In this case, the estimate is unbiased, whereas the statistical error can be arbitrarily reduced at the expense of an increase in the averaged interval. In the measurement of the probability characteristics of nonstationary fields, difficulties arise that are connected with the appearance of a biasing error which increases with an increase in the averaging interval. This error can be minimized, but under unfavorable conditions (a rapid transient mode, for example) even a minimized error may be too large. Hence, to reduce the error in measuring nonstationary fields, the

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USER

GALANENKO, V. B., et al., Tezisy dokl. 3-y Vses. shkoly--seminara po stat. gidroakustike, 1971 (from RZh--Fizika, No 4, 1973, Abstract No 4Zh591

averaging must be done over space coordinates rather than time. Estimates based on averaging over space can compete successfully with estimates based on averaging over time if the ratio of the dimension of the quasi-uniformity zone to the space correlation interval exceeds the ratio of the quasi-stationary interval to the time correlation interval. It is noted, however, that in general the best results for the estimation can be obtained by averaging over both space and time. It is shown that such an estimate is practically unbiased, in the choice of a number of conditions; the dispersion of this estimate is determined; the competence of such an estimate under the condition of adherence to the ergodicity of the random field is investigated. As examples, errors of the estimates for the following cases are investigated: measurements of the correlation functions of a random sonic field; measurements of the spectral density of random sound field dispersion; and measurements of the probability density of the random sound field. V. K.

2/2

- 16 -

USSR

UDC: 534.4

GALANENKO, V. B., KARNOVSKIY, M. I., KRASNYY, L. G., Kiev Polytechnical Institute

"Measurement of Correlation Functions of Nonstationary Acoustic Fields"

Moscow, Akusticheskiy Zhurnal, Vol 18, No 2, Apr-Jun 72, pp 206-211

Abstract: A method is considered for measuring the correlation functions $K(t, x; \tau, \rho)$ of nonstationary acoustic fields which appreciably reduces the measurement error by averaging the field $\phi(t, x)$ with respect to spatial coordinates. A sufficient condition is derived for the ergodicity of the field $\phi(t, x)$ in accordance with the spatial coordinates with respect to the correlation function. Expressions are found for the statistical error of measurement of $K(t, x; \tau, \rho)$, and the results of computations are given on variance of the estimate of the correlation function for different models of random fields.

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USSR

UDC 621.391.8

GATKIN, N. G., KRASNYI, L. G., and PASECHNYI, S. V.

"Detection of Signals in Reverberation Noise"

Kiev, Izvestiya VUZ--Radioelektronika, vol. 14, No. 7, 1971, pp 758-761

Abstract: The reverberation referred to in the title of this article is the sea return, for which a nonstationary random process of the form $N(t) = m(t)n(t)$ is assumed, where $m(t)$ is a defined function and $n(t)$ is a stationary random process with the correlation function $K(\tau) = \sigma_p^2 (1 - |\tau|/\tau_0) \cos \omega_0 \tau$. These formulas are obtained from "Statisticheskiye svoystva morskoy reverberatsii" (Statistical Characteristics of Sea Return) by Gl'shevskiy, V. V., published in 1966 by Nauka. The authors of the present article derive an expression describing the structure of an optimal detector of this signal and estimate the noise immunity of the detector. They then determine the loss in noise immunity possible in the use of a nonoptimal receiver instead of an optimal one with either the nonwhiteness of the noise or the nonstationary quality of the noise taken into account. They conclude that, in practical applications, it is best to use receivers with single resonance circuits.

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UDC: 621.391.883.2

GATKIN, N. G., GERANIN, V. A., KARNOVSKIY, M. I., KRASHNYY, L. G.

"Resistance to Interference of a Typical Signal Detection Channel"

Pomekhoustoychivost' tipovogo trakta obnaruzheniya signalov (cf. English above), Kiev, "Tekhnika", 1971, 203 pp, ill. 73 k. (From RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A37)

Translation: The book is made up of three chapters: the first deals with the basic elements of a typical detection channel (detectors and filters), the second is devoted to the detection of signals against a background of stationary interference, and the third takes up detection of signals against a background of nonstationary interference. The book was compiled from materials of original investigations by the authors. N. B.

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Acc. Nr.:

AP0044049

Ref. Code:

UR4387

JPRS 52052

Nature of the East Kurile Magnetic Anomaly

(Abstract: "Nature of the East Kurile Magnetic Anomaly," by I. K. Turyazov, M. L. Krasnyy, O. A. Solov'yev and Ye. V. Kochergin, Sakhalin Multi-Discipline Scientific Research Institute; Moscow, Izvestiya Akademii Nauk SSSR, Fizika Zemli, No. 1, 1970, pp. 90-93)

The east Kurile regional anomaly stands out clearly in the regional field obtained by analytical continuation of the anomalies of the Okhotsk-Kurile region into the upper half-space at the levels 12.5, 25 and 40 km. This anomaly extends for more than 1,500 km along the Kurile-Kamchatkan island arc and for a distance of 50-100 km to the east of it. Its axis is situated between the island arc and the abyssal trench. The northern part of the observed anomaly is about 300 km wide at an altitude of 12.5 km; in the south it is about 150 km wide. On the west it joins the anomalies of the Sea of Okhotsk and on the east it adjoins the sign-variable field of the Pacific Ocean. A comparison of the map of regional magnetic anomalies with seismic deep seismic sounding cross sections shows a rather good correlation between the intensity of the regional magnetic anomaly and the thickness of the basalt layer. In the Kurile-Kamchatkan island

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are: the thickness of the granite layer is generally insignificant and therefore it is entirely natural to assume that the regional magnetic anomaly is caused by the behavior of the upper and lower boundaries of the basalt layer. Computations were made for determining the quantitative relationships between deep seismic sounding cross sections and magnetic anomalies scaled to an altitude of 25 km. The computations revealed a good agreement between the computed T values from the basalt layer and the regional anomaly. The computations prove that the regional east Kurile magnetic anomaly is caused for the most part by the magnetic properties, thickness and depth of the basalt layer,

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Acc. Nr.: AT0045336Ref. Code: UR0020
JPRS 521052Anomalous Magnetic Field in the Sea of Japan

(Abstract: "Anomalous Magnetic Field of the Sea of Japan," by M. I. Krasnyy, Sakhalin Multidiscipline Scientific Research Institute, Moscow, Doklady Akademii Nauk SSSR, Vol. 190, No. 2, 1970, pp. 413-416)

During 1966-1967 the Sakhalin Multidiscipline Scientific Research Institute conducted a geomagnetic survey in the Sea of Japan for the purpose of studying its geological structure. This made it possible to construct maps of ΔT_a graphs which are reproduced in this article. On the basis of an analysis of the degree of differentiation, intensity and strike of the axes of magnetic anomalies, it was possible to define a number of zones of anomalous magnetic fields in the Sea of Japan which are directly related to the geological structure and tectonics of this region. 1. The Eastern Sikhote-Alin' Zone is characterized by a strong sign-variable field with horizontal gradients up to 500 γ/km and changes in the intensity of individual anomalies to 1000 γ or sometimes more. The zone is on the continental shelf and slope. 2. Southern Primor'ye Zone, characterized by an intense sign-variable field with intensity changes to 2000 γ and horizontal gradients up to 250 γ/m . 3. Southern Tatar Zone, constituting a negative field with an intensity up to 250 γ , standing out clearly against a back-

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ground of strong sign-variable anomalies. 4. Kisiri-Moneronenskaya Zone, characterized by an exceedingly complex sign-variable field with a predominance of positive anomalies with an intensity up to 700 γ and extremely high horizontal gradients, running from Sakhalin to Hokkaido. 5. Sea of Japan Zone, with fields of both positive and negative sign, with a predominance of the latter. 6. Yamato Zone, characterized by an increased magnetic field level in comparison with the surrounding area with a considerable differentiation of positive anomalies with a width from 1-2 to 25-30 km and an intensity up to 500 γ . 7. Western Honshu Zone with a differentiated field of both positive and negative sign and an insignificant intensity, in most cases not exceeding 100 γ . 8. Oka Zone, characterized by predominance of a negative field with an intensity up to 250 γ , bordered on the Honshu side by a system of continuous positive anomalies of low intensity with a maximum up to 300 γ . 9. Eastern Korean Zone, characterized by a uniform slightly anomalous field of positive and negative sign varying in the range $\pm 100 \gamma$, against whose background it is possible to trace several elongated positive anomalies with an intensity up to 300 γ . 10. Ionilmanskaya Zone, a regional positive anomaly with an intensity up to 400 γ . It is shown that the magnetic field of the Sea of Japan provides exceptionally important information on geological structure and in combination with other geological-geophysical data will serve as a basis for compiling a structural geology map.

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KRASOTCHENKO, L. M.

SPRS 56, 499
14 JULY 72

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UTILIZATION OF THE WASTES IN A BIOENGINEERING COMPLEX IN A LIFE SUPPORT SYSTEM

Article by L. S. Guryova, T. A. Pavlova and L. N. Krasotchenko, Actualyze "Voprosy Kosmicheskoy Biologii" (Problems of Cosmic Biology) Vol. 10, No. 1, 1972, pp. 10-15.

1. In those variants of bioengineering life support systems which include a link of higher plants as a source of the vegetable part of the ration and as a regeneration of the atmosphere, the oxygen balance does not make it possible to carry out processes of thermal and liquid-phase mineralization of greenhouse wastes.

In these cases for the preparation of nutrient media the plants must use minerals from the reservoir.

The wastes of higher plants contain a considerable quantity of mineral elements. A promising method has been developed for returning them without oxygen expenditures.

2. It is shown that by the pressing of waste fragments and leaves it is possible to obtain a juice from which by heating it is possible to extract a protein concentrate. The yield of juice from the economically unusable part of the plants is from 62-77% of the weight of the initial product. The extract contains all the principal mineral elements in a quantity up to 30% of the plant requirements.

3. The collected juice was used as the initial nutrient solution for cultivating Chlorella. The results of cultivation of Chlorella revealed the possibility of using the juice for its cultivation.

1/2 016 UNCLASSIFIED PROCESSING DATE--23OCT70
TITLE--LINING OF THE COMBUSTION CHAMBER OF A HIGH PRESSURE STEAM BOILER
-U-
AUTHOR-(04)-KARKLIT, A.K., KRASOTKINA, N.I., PILDISH, V.G., MALINOVSKIY,
S.V.
COUNTRY OF INFO--USSR
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TOPIC TAGS--STEAM BOILER, SILICON CARBIDE, REFRACTORY MATERIAL

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DOCUMENT CLASS--UNCLASSIFIED
PROXY REEL/FRA--1996/1707

STEP NO--UR/0131/70/035/002/0013/0032

CIRC ACCESSION NO--AP0118685

UNCLASSIFIED

2/2 016
CIRC ACCESSION NO--AP0118685
ABSTRACT/EXTRACT--(U) GP-0-

UNCLASSIFIED

PROCESSING DATE--23OCT70

ABSTRACT. THE 2 LAYERS LINING OF THE
COMBUSTION CHAMBER OF A HIGH PRESSURE STEAM BOILER ABLE TO WITHSTAND
RAPID TEMP. CHANGES OF 85-100DEGREES-MIN WAS BASED ON SIC NITRIDE BONDED
BACK FILLED WITH GRDG. THIS SYSTEM OF A SIC TOP LAYER AND A TIGHTLY
PACKED FILL HAS LITTLE VOL. CHANGE WITH TEMP. AND GOOD THERMAL COND.
PRODUCING A LINING THAT HAS IMPROVED LIFE. FACILITY: VSES.
INST. OGNEUPOR., LENINGRAD, USSR.

UNCLASSIFIED

USSR

UDC 621.762.001

KRASOTKIN, I. S., DUBROVINSKIY, R. L., and KUZ'MENKO, A. S.

"Determination of Porosity of Powders by Mercury Porometry"

Zap. Leningr. gorn. in-ta [Writings of Leningrad Mining Institute], Vol 50, No 3, 1970, pp 148-155 (Translated from Referativnyy Zhurnal-Metallurgiya, No 2, 1971, Abstract No 2 G401 by the authors)

Translation: The possibility of determining the porosity of powders by mercury porometry is established by calculation and confirmed experimentally. The formula suggested for calculation of the unfilled volume of secondary pore structure of powders allows experiments to be planned which take into account the required measurement accuracy. 3 figures; 4 tables; 3 biblio. refs.

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USSR

UDC 621.786.6--391.5

KRIKOROV, V.S., KRASOV, V.G., MARKASYANTS, A. YE.

"Preparation And Study Of The Quality Of Thin-Film Capacitors Based On Oxides Of Rare-Earth Elements"

Elektron. tekhnika. Nauch.-tekhn. sb. Upr. kachestvom i standartiz. (Electronics Technology. Scientific-Technical Collection. Administration Of Quality And Standardization), 1971, Issue 1(7), pp 79-83 (from RZh--Radiotekhnika, No 9, Sept 1971, Abstract No 9V316)

Translation: The preparation is considered of thin dielectric films and capacitors based on oxides of rare-earth elements by the method of thermal evaporation with electron bombardment and by an electron beam in a vacuum. The results are presented of a study of the quality of the thin-film capacitors prepared. Summary.

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Krasov, K.V.

UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent, 1970

237362

GRIP FOR RAISING AND SETTING TETRAPODS

used in protecting hydraulic installations against wave effects, comprising frame with levers and traverse moving vertically connected by cables to gripping arms, differing in the frame being in the form of a ring with three rigidly attached levers corresponding to the form of the tetrapod, with gripping arms on their ends connected by cables to a load clamp suspended on the auxiliary hook of the crane, and by the traverse suspended on the load hook. This automates the lifting and setting of the tetrapods. On lowering onto the tetrapod, the grip hangs on auxiliary hook 14, and load hook 7 is somewhat lowered. Cables 2 and 4 are slack, but cables 12 are tensed and open gripping arms 5. After ring 8 is set on the tetrapod, hook 14 is lowered and cables 12 slackened.

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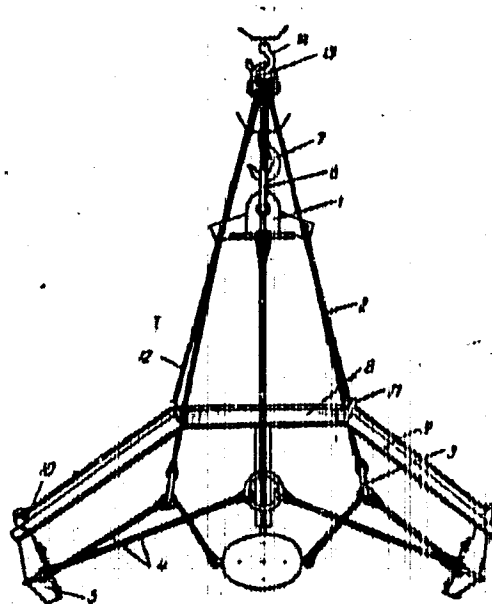
On the lifting of hook
7, cables 2 and 4 are pulled taut and act on arms
5 the tetrapod has been put in place; hook 7 is
lowered, cables 2 and 4 are slackened, and on
raising the grip by hook 14, cables 12 are made
taut, and acting on a rms 5, open then. The grip
is then removed from the tetrapod.

18.4.67. as 1149967/27-11, KRASOV, N.V. (14.6.69)
Bul. 8/12.2.69. Class 35b, Int. Cl. 1.66c.

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KRASOV J.V.
UR 0482

Soviet Inventions Illustrated, Section III Mechanical and General,
Derwent, 1-70

237362

GRIP FOR RAISING AND SETTING TETRAPODS
used in protecting hydraulic installa-

tions against wave effects, comprising frame with levers and traverse moving vertically connected by cables to gripping arms, differing in the frame being in the form of a ring with three rigidly attached levers corresponding to the form of the tetrapod, with gripping arms on their ends connected by cables to a load clamp suspended on the auxiliary hook of the crane, and by the traverse suspended on the load hook. This automates the lifting and setting of the tetrapods. On lowering onto the tetrapod, the grip hangs on auxiliary hook 14, and load hook 7 is somewhat lowered. Cables 2 and 4 are slack, but cables 12 are tensed and open gripping arms 5. After ring 8 is set on the tetrapod, hook 14 is lowered and cables 12 slackened.

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